

REMARKS

Claims 20, 22, 23 and 25-30 are pending in this case. Applicants note that Claim 18 was cancelled in a Supplemental Amendment mailed August 8, 2000. However, for the interest of clarity, Applicants have reiterated their cancellation of Claim 18. An Appendix of pending claims which are under consideration is attached for the Examiner's convenience.

As a preliminary matter, Applicants note that the inventorship of the present application has been corrected pursuant to C.F.R. § 1.48(b) (see enclosed Request to Correct Inventorship). As stated in the Request, amendment of the originally pending claims resulted in a situation where Thomas J. Meade was no longer an inventor of the claimed subject matter. Therefore, inventors of the presently claimed subject matter are Jon F. Kayyem and Steven O'Connor.

Drawings

The office action states that the drawings filed on 1/10/01, i.e., Figures 7A-7S, and the drawings filed on 6/12/98, i.e., Figures 1-6E are acceptable subject to correction of informalities. Formal drawings of Figures 7A-7S and 1-6E are enclosed. Applicants respectfully request withdrawal of the rejection.

Rejections under 35 U.S.C. § 103(a)

Claims 18, 20, 22, 23 and 25-30 are provisionally rejected under 35 U.S.C. §103(a) as being obvious over co-pending application 08/873,597. Claim 18 has been cancelled and thus the rejection is moot as applied to claim 18.

A terminal disclaimer listing co-pending application 08/873,597 is attached. As shown in the attached assignments for the present application (Exhibit A) and the co-pending application (Exhibit B), Clinical Micro Sensors is the common assignee for both applications. Applicants respectfully request withdrawal of the rejection.

Claims 18, 20 and 25-30:

Claims 18, 20 and 25-30 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keen (U.S.P.N. 6,060,327) in view of Kossovsky et al., (U.S.P.N. 5,585,646) and further, in view of Wohlstadter et al., (U.S.P.N. 6,090,545). Claim 18 has been cancelled and thus the rejection is moot as applied to claim 18.

As a preliminary matter, the Examiner does not explicitly state the motivation for the combination of the references, but instead states that the individual techniques "are well known in the art". Applicants respectfully traverse this finding to prevent this statement from becoming admitted prior art (see M.P.E.P. § 2144.03).

The Examiner's main point in rejecting Claims 18, 20 and 25-30 under 35 U.S.C. §103(a) appears to be that the combination of the cited references teaches the present invention; i.e., Keen teaches sensors for the detection of target analytes, while Kossovsky and Wohlstadter teach SAMs. Applicants respectfully traverse this rejection.

Applicants submit that the Keen reference is not a proper prior art reference. The Keen reference has a filing date of May 14, 1997. Enclosed are declarations by the inventors, Jon F.

Kayyem and Steven O'Connor, submitted under 37 C.F.R. §1.131, referencing a provisional application dated prior to May 14, 1997. The declarations outline that the invention was completed in this country prior to May 14, 1997. Accordingly, the Keen reference is not a proper prior art reference, and the Keen reference should be withdrawn.

With regard to the remaining references, Kossovsky et al. teach the use of a biochemical stabilization layer deposited on the surface of a semiconductor to which is bound an electronically active biochemical molecule. The biochemical stabilization layer is made of a polyhydroxy oligomer. There is no teaching in Kossovsky et al, regarding the use of bioelectronic devices for the detection of target analytes in biological samples.

Wohlstadter et al. teach cassettes formed of supports have a plurality of binding domains able to bind one or more target analytes of interest. The binding domains comprise self assembled monolayers. Unlike the present invention, the binding domains in Wohlstadter et al., are not attached to the electrodes. More importantly, they do not need to make mechanical contact with the electrodes to stimulate electrochemiluminescence (see col. 10, lines 15-26). Finally, the target analytes are detected based on electrochemiluminescence, rather than electrochemical detection.

In contrast, the present invention is drawn to an apparatus for the detection of a target analyte. The apparatus comprises 1) an array of first measuring electrodes comprising a self-assembled monolayer and a binding ligand; and 2) a voltage source.

To establish a prima facie case of obviousness, the prior art references (or references when combined) must teach or suggest all the claim limitations. Applicants submit that neither Kossovsky et al. or Wohlstadter, et al. alone or in combination teach a biosensor for the detection of target analytes based on electronic or electrochemical detection. Thus, the requirement that the prior art references teach or suggest all the claim limitations is not met. Accordingly, Applicants respectfully request the rejection be withdrawn.

Claims 22 and 23:

Claims 22 and 23 are rejected under 35 U.S.C. §103(a) as being unpatentable over-Keen (U.S.P.N. 6,060,327) in view of Kossovsky et al., (U.S.P.N. 5,585,646) and further, in view of Wohlstadter et al., (U.S.P.N. 6,090,545) as applied to claims 18, 20, 25-30 above and further in view of Meade (U.S.P.N. 6,013,459). The Examiner says that the Applicants argument in the previous response to Office Action was persuasive but maintains the rejection until receipt of the assignment showing a common assignee for Meade (U.S.P.N. 6,013,459) and current application.

Applicants submit assignments for the present application and for Meade, et al., U.S.S.N. 08/873,977, now U.S. Patent No. 6,013,459 (attached hereto as Exhibits A and C respectively) to verify that the present application and the Meade patent have a common assignee, i.e., Clinical Micro Sensors.

In addition, applicants again note that Keen has been removed as a prior art reference under 37 C.F.R. § 1.131

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Accordingly, Applicants respectfully request that the rejection to Claims 22 and 23 under 35 U.S.C. §103(a) be withdrawn.

Attached hereto is a marked-up version of the changes made to the claims by the "Amendment". The attached page is captioned "**Version with markings to show changes made.**"

Please direct further questions in connection with this Application to the undersigned at (415) 781-1989.

Respectfully submitted,
DORSEY & WHITNEY LLP

By: 

Renee M. Kosslak, Reg. No 47,717
for Robin M. Silva, Reg. No. 38,304
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Four Embarcadero Center
Suite 3400
San Francisco, California 94111-4187
Telephone: (415) 781-1989
Fax No. (415) 398-3249